

Dusting for Fingerprints - It Ain't CSI

May 11, 2011

Fingerprints – dozens of crime dramas revolve around them. The investigators find the victim, dust for fingerprints, run them through a computer program and –*voilà*– the guilty party is quickly identified and sent to prison.

If only it were that easy. The reality is that this common but crucial part of an investigation is done by humans, not by computers. An upcoming study in *Psychological Science*, a journal of the Association for Psychological Science, reveals that the human factor in the process could lead to errors and false convictions of innocent people.

“We knew from other psychological research that the all-too-human foibles of distraction, rushes to judgment, biases and expectations can’t be avoided even by the most diligent professionals, so we were understandably concerned about the potential for error,” said lead author Jason Tangen of The University of Queensland.

“But despite its 100 year history, there have been few peer-reviewed studies directly examining the extent to which experts can correctly match fingerprints to one another.”

Tangen, along with the other authors, set out to determine the likelihood of human error when dealing with fingerprints. They gave 37 qualified fingerprint experts and 37 novices pairs of fingerprints to examine and decide whether a simulated crime scene matched a potential suspect or not. Some of the print pairs belonged to the “criminal” while others were highly similar but actually belonged to an “innocent” person.

The experts correctly matched just over 92 percent of the prints to the criminal. But, they mistakenly matched 0.68 percent of the prints to the innocent person.

“Expertise with fingerprints provides a real benefit,” said Tangen. “But experts—like doctors and pilots—make mistakes that can put lives and livelihoods at risk.” he added.

Tangen said that experts tended to err on the side of caution by making errors that would free the guilty rather than convict the innocent. Even so, they made the kind of error that may lead to false convictions.

“The issue is no longer whether fingerprint examiners make errors, but rather how to acknowledge them.”